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THE EFFECT OF"THE ASSOCIATED GOA FORMOL VACCINE AGAINST COLIBACTERIOSIS AND SALMONELLOSIS OF CALF, LAMB AND PIG CHILDREN " ON THE BODY OF LAMBS

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Abstract:

In the article, as a result of vaccination of lambs with the vaccine "GOA-associated formol vaccine against colibacillosis and salmonellosis of calves, lambs and piglets", the duration of immunity was established in experiments at 9-12 months. In the treatment of colibacillosis and salmonellosis in lambs, it was noted that due to the stabilization of the immune system due to gamma globulins in hyper immune blood serum, the effectiveness exceeds 90 percent. The article also provides information about hematological and biochemical changes in the blood of lambs with a mixed form of these diseases and the sensitivity of E.coli and salmonella to antibiotics.

Keywords

Antibody, titer, agglutination, treatment, prevention, sensitivity, hyper immune blood serum, microbiology, antibiotic, vaccine, gastritis, splenetic, atrophy, dystrophy, thrombosis.

Introduction

It is no secret that among young animals from diseases that are currently causing sufficient damage to the livestock sector, a large number of cases of colibacteriosis and salmonellosis, which occur especially in Lambs, sometimes these infections come in a mixed form, increasing the incidence among personal animals belonging to farmers, companies and the population.

One of the urgent problems is the study of the effectiveness of The "Associated GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children"on the basis of local strains in the Prevention of colibacteriosis and salmonellosis on the immune system of the lamb's organism.

It is a problematic process for antibiotic drugs used in the treatment of bacterial diseases to accumulate in the human body in a cumulative state through meat and dairy products, while calling various pathological conditions in the liver, spleen, central nervous system and other organs at the expense of its subsequent changed biochemical structure.

Determination of the effectiveness of treatment with hyperimmune blood serum, prepared by means of local strains in the treatment of diseases such as colibacteriosis and salmonellosis, which occur especially among young animals, is considered from the main tasks of our studied studies from 2012-2023. Complex protein that is formed in the body

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from these antigens are active organic substances of nature (gamma-globulin et al.) it is important to experimentally determine whether the immune system is stable at the expense of primary clostridial immunity.

Purpose of the study:

The immune duration of The"Associated GOA formol vaccine against colibacteriosis and salmonellosis diseases of calf, lamb and pig children " is envisaged to determine the prevalence of hyperimmune blood serum from antibiotic agents in the treatment of these diseases, and, accordingly, the hematological and biochemical changes in the blood in the body of lambs vaccinated with this vaccine.

Literary Review:

Colibacteriosis of lambs and calves is common in livestock and is characterized by symptoms of gastrointestinal dysfunction [9]. In terms of enterotoxicity and prevalence rates in diseases, it is 11-29% in Canada,13-50. 8% in the United States, 6% in the Netherlands, 58% in France, 4% in England, 6% in Australia and 6-47% in Israel [1].

Colibacteriosis – colienteritis is an acute infectious disease of young animals characterized by symptoms of severe diarrhea, septicemia and malaise, mainly from 2-7 days of life of newborn calves, starting from the first day of piglets, lambs and chicks to 3-5 months of age, and furry animals from 1-5 days of age E.it is damaged by coli. It is quite natural that in the animal's body, as a result of the weakening of the immune system, infection and invasion (respiratory, gastrointestinal) lead to frequent infections with diseases. This condition, including lambs, increases economic damage when affected by colibacteriosis. Antibiotic agents used in the treatment of such types of diseases negatively affect the body's immune system, morphopathological, Morpho-functional state [7].

Salmonellosis – a septic-shaped, acute transient infectious disease of young animals, characterized by increased temperature and impaired gastrointestinal function and diarrhea. With salmonellosis, mainly calves are infected from 3-4 weeks of age to 4 months of age, piglets from 4 months of age, sheep-lambs at all ages, in the early days of avian life, and foals from the mother womb with specific types of triggers.

E. of young animals.abomazum contains colostrum deposits in the presence of Coli and Salmonella causative agents. The mucous membranes of the affected animals are swollen, covered with mucus, and the blood vessels are full of blood [2].

Gas bubbles in the intestines smell unpleasant, and sometimes traces of blood are observed in the composition. The mucous membrane is swollen, covered with mucus, there are blood clots with spots and dots. The lymph nodes of the colon are enlarged. In the description of pathological changes, bleeding indicates the septicotoxic nature of the infectious process [4]. Obviously, changes in these organs during pathological diagnostics are worthy of attention. Especially changes in organs have an exudative character [3]. In this case, the

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spleen enlarges sometimes remains in moderation. In the case of growth at the edge of the organ, they are slightly rounded, the consistency of which is glandular. The capsule is smooth, bleeding is observed under it. The surface of the incision is dry, reddish-brown, covered with white stripes. During histological examination, an increase in lymphoid and reticular tissue elements is not observed. Differences in pathological changes in these members, with differential significance, should be considered in the diagnosis of co-occurrence of lambs colibacteriosis and salmonellosis [5]. Toxic substances formed as a result of a violation of the digestive process and the development of dysbiosis fall into the bloodstream, leading to general intoxication of the body, violation of the function of systems and organs, in particular, the liver and kidneys [6].

Objects of research and methodologies:

In order to prevent, treat Lambs with colibacteriosis and salmonellosis disorders and identify pathomorphological changes, we need to study the laboratory part in the Veterinary dog (in laboratories for the study of microbiology and diseases of young moles), as well as in the conditions of production of “M.Ibragimov " at karakulik LLC.

In studies, hyperimmune blood serum treatment and clinical changes were monitored for 21 days in 42 head lambs that were naturally affected by colibacteriosis and salmonellosis, using the social background conditions of the farm.

In sheep-lambs under one year of age, where experiments were carried out, hematological, biochemical, serological (E.agglutination reaction with coli and Salmonella antigens), and investigations were performed in microbiological styles. In serological (agglutination reaction) examination, e prepared on the basis of local strains in the Viti microbiology laboratory.antigens of coli and salmonella were used. In natural conditions, E.the results of hematological and biochemical analysis in the blood of lambs infected with coli and salmonella were determined in the biochemical Laboratory of the 1st Republican scientific and practical hospital of the city of Samarkand.

Results and their analysis:

The laboratory results of the studies carried out are mainly presented in the following tables (tables 1,2,3,4,5). Peasant district “M.Ibragimov", an LLC specializing in scabies available in the farm 3-day to 4-month-old lambs in animals vaccinated with” associated GOA formol vaccine against colibacteriosis and salmonellosis diseases of calves, lambs and swine children", hematological analysis in blood erythrocytes and leukocyte count (Goryaev count net), hemoglobin quantifier using Sali hemometer, biochemical indicators of total proteins in blood serum refractometrically, the amount of glucose in the blood was determined in its color reaction with ortho toluidine [8].

For experimental determination of the immune duration of The”Associated GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children", Farm lambs were classified into 2 groups. The 10 head lambs in experimental group I were vaccinated for the first time with” an associative GOA formol vaccine against

colibacteriosis and salmonellosis of calf, lamb and pig children " after 1 ml, 14 days (revaccination) based on 2 ml subcutaneous asepsis and anticepsis regulations. The 10 head lambs in Experimental Group II were only vaccinated once under the skin in an amount of 2 ml with “an associative GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children”.

Epizotic events were observed in controlled follow-up for 9 months in animals where experiments were carried out. E in the blood serum of lambs vaccinated with “assosied GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children” according to the experiment.antitelolar titre against coli and Salmonella has been detected on the basis of agglutination reaction up to 30, 60, 90, 180 and 270 days (tables 1-2).

Table 1. Vaccinated lambs are found in blood serum E.antithelolar titer dynamics against coli

(AR 1:25)

Groups	Head number	Up to the experiment	Days (after vaccination)				
			30 days	60 days	90 days	180 days	270 days
Experimental group I (Vaccinated 2 times)	*n=10*	1:40	1:1240	1:1200	1:972	1:800	1:400
Experimental Group II (once vaccinated)	*n=10*	1:60	1:600	1:720	1:800	1:600	1:270

According to the result of the agglutination reaction, 10 head lambs of the I experimental group were vaccinated 2 times with the current manual “non-associative GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children”, E.coli's antitelolar titer Dynamics was statistically found to have decreased by 2.82±0.13 times from the beginning of the experiment to 9 months, with one-and nine-month outcome reduced by 2.22±0.08 times in studies as the Lambs in Experimental Group II were vaccinated with this vaccine only once.

Table 2. Antithello titer dynamics against salmonella in vaccinated lambs blood serum (AR 1:25)

Groups	Head number	Up to the experiment	Days (after vaccination)				
			30 days	60 days	90 days	180 days	270 days
Experimental group I (Vaccinated 2 times)	*n=10*	1:42,5	1:920	1:840	1:880	1:680	1:540
Experimental Group II (once vaccinated)	*n=10*	1:50	1:470	1:620	1:667	1:533	1:333

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According to the agglutination reaction result, 10 head lambs in experimental group I were vaccinated 2 times with “associated GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children” in the current application, the difference between one and nine-month results in studies was 1,411 as Salmonella's antithellar titer dynamics decreased by 1,703±0.09 times from the beginning of the experiment statistically found to have decreased to±0.1 times.

Blood samples were examined to determine the outcome of 9 months of hematological analyzes in the blood of lambs vaccinated with” an associative GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children". In our studies, the hematological indicators of vaccinated lambs with the vaccine mentioned above were examined. The tests recorded an increase in the number of leukocytes and erythrocytes in the blood of vaccinated lambs, a relative change in the leukoformula (Table 3).

Table 3. Hematological indicators of the blood of lambs vaccinated with a vaccine against colibacteriosis and salmonellosis (n=10)

Check time	Erythrocyte, mln/mkl	Leukocyte,ming/mkl	Leukoformula					
			E	B	M	L	Neutrophils	
							Rod-core	articular nucleus
Norm	9,16±0,88	8,74±0,74	7,0	0,6	3,4	44,8	4,8±0,41	41,6±4,12
Experimental group I (2 times vaccinated)								
30 days	9,21±0,77	11,91±0,72	8,1	0,4	3,1	44,0	4,9±0,28	36,4±2,14
60 days	8,85±0,54	10,82±0,71	6,9	0,3	3,0	47,0	4,7±0,39	33,2±3,16
90 days	9,24±0,84	9,20±1,05	6,7	0,5	3,7	44,4	4,3±0,18	41,4±2,24
180 days	9,21±0,78	8,28±1,04	6,2	0,5	3,4	46,2	4,7±0,44	42,0±2,41
270 days	9,55±0,45	8,71±0,41	7,4	0,7	3,2	41,4	4,1±0,27	44,2±1,81
Experimental Group II (1 time inoculated)								
30 days	9,18±0,28	11,62±0,41	7,4	0,4	2,2	44,2	4,8±0,31	35,4±1,87
60 days	9,21±0,84	10,64±0,81	8,2	0,5	3,0	48,4	4,2±0,21	37,5±2,21
90 days	9,20±0,85	8,74±0,89	8,0	0,4	3,2	41,1	4,6±0,38	36,4±3,21
180 days	9,18±0,45	8,45±0,78	7,8	0,4	2,5	41,2	4,8±0,22	36,9±2,22
270 days	9,24±0,85	8,41±0,56	7,9	0,5	3,2	40,9	3,8±0,18	38,5±2,52

Each hematological change in the experiment was compared with the norm. Experimental Group I animals vaccinated 2 times with” associated GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children " were found to be partially reduced in lymphocyte, basophill, myelocyte, rod, and articular nucleus neutrophils when venerated at 30 days of age compared to the norm of leukoformula change. While erythrocytes remained virtually unchanged, leukocytes were found to increase by 1,363±0.06 times compared to the norm. This is evidenced by the introduction of YAGNI-type antibodies into the body and the response of the immune system to the humanitarian response. It was found that the leukoformula of Experimental Group II animals vaccinated

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once with" an associative GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children " had changes in myelocytes and articular nuclear lymphocytes. Blood samples were examined to determine the outcome of biochemical changes in the blood of 30 head lambs vaccinated with" The Associated GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children " (Table 4). The tests recorded changes in the blood of lambs vaccinated 2 and 1 times with respect to the norm of total protein and partial creatinine.

Table 4 Dynamics of biochemical indicators of the blood of lambs vaccinated with The Associated GOA formol vaccine against colibacteriosis and salmonellosis

Specification	1 experimental group (TWICE vaccinated)	2 experimental group (once vaccinated)	3 control group
Up to the experiment n=10			
Albumin, g/l	29,16±1,13	32,36±0,82	28,84±0,607**
Common protein, g/l	66,28±5,10*	65,84±3,51	65,34±3,72
Močevina, mmol/l	4,26±0,12	4,56±0,29	4,86±0,25
AlAt, E/l	58,14±3,26	61,93±1,82	76,58±3,49
Amylase, E/l	1659,31±18,51	1658,45±15,18	1648,62±21,19
Creatinine, mkmol/l	78,24±4,24	65,72±4,25	89,39±4,58
On Day 21 of the experiment n=10			
Albumin, g/l	29,78±3,16	31,49±2,34	29,51±2,55
Common protein, g/l	66,31±3,58	72,46±3,45	56,41±2,31
Močevina, mmol/l	4,25±0,23	4,39±0,29	4,28±0,19
AlAt, E/l	58,14±3,41	61,46±2,16	56,34±3,44
Amylase, E/l	1645,84±18,71	1659,31±19,45	1645,56±13,84
Creatinine, mkmol/l	71,8±2,74	69,78±5,74	81,19±2,28
14 days after the experiment n=10			
Albumin, g/l	31,58±3,08	29,97±2,16	28,29±1,46
Common protein, g/l	69,06±4,19	72,48±2,54	58,86±2,58
Močevina, mmol/l	5,78±0,36	4,49±0,608**	4,89±0,51
AlAt, E/l	61,54±3,24	65,12±2,58	69,49±4,11
Amylase, E/l	1616,24±16,02	1645,73±22,52	1641,45±28,75
Creatinine, mkmol/l	66,72±3,79	72,93±3,419**	61,85±2,84
Note: *-p<0,05; **-p<0,001			

According to Table 4 the results of biochemical analysis of Group I lambs blood vaccinated 2 times with The Associated GOA formol vaccine against colbacteriosis and salmonellosis were found to differ by 2.42±0.081 and 2.78±0.04 respectively in the pre-experimental blood analyses of albumin and total proteins at 14 days of the experiment and This led to the introduction of the new E, which was introduced into the Lambs ' organism.the complex protein of the complex structure of the coli and Salmonella antigens is a sign that it is a natural substance.

If total proteins were reduced in biochemical analysis of the blood, it would cause the development of liver dystrophy. A decrease in albumin levels would have contributed to a

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decrease in the proteosynthetic process of hepatocytes in the liver. And it turned out that this situation remained unchanged in our studies.

Whereas first group lambs vaccinated 2 times with" associated GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children " showed reduced serum mochevina levels, control group lambs were found to remain unchanged.

An increase in creatinine to 72.93±3.419 mkmol/l, due to an increase in the amount of mochevine in the organism by 5.78±0.36 mmol/l, was found to have a higher reliability rate ($P<0.05$) in our study.

In a biochemical analysis of the blood of the first group of lambs vaccinated 2 times with" associated GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children", it was noted that the enzyme alanine aminotransferase (AlAT) increased by -3.28 E/L and the enzyme amylase -13.47 e/l compared to 1-vaccinated lambs with this vaccine in Group 2. This condition means that the hepotocytes are not damaged and the enzyme function remains unchanged. The activity of the amylase enzyme involved in carbohydrate metabolism in the control group of lambs has been found to remain unchanged.

Thus, lambs vaccinated 2 times with The" Associated GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children " ensure that all biochemical indicators of lamb's blood are in the physiological norm, helping them to improve the immune system, mild course of the process when mobodo is damaged by colibacteriosis and salmonellosis triggers, all physiological indicators in short periods.

Dehkanobot district "M.42 (forty-two) head lambs, naturally affected by colibacteriosis and salmonellosis diseases, were isolated in the LLC" Ibragimov", which specializes in scabies, and the effectiveness of treatment with" hyperimmune blood serum against colibacteriosis and salmonellosis of young animals " was compared to several types of antibiotic drugs.

In the experiment, 14 heads of infected lambs were assigned to Group I, and 24 heads were assigned to Group II. Group I was treated at Viti's microbiology laboratory with "hyperimmune blood serum against colibacteriosis and salmonellosis of young animals", prepared on the basis of local strains. 24 cephalopods in Experimental Group II were treated with antibiotics amoxicillin, penstrip-400, farmostar, doxylox, nitox, typhoid, enroflox, and gentamicin sulfate (Table 5).

Each type of antibiotic agent with a curative property of infectious diseases was carried out on a distribution basis for the treatment of lambs from 3 naturally infected heads with colibacteriosis and salmonellosis.

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Table 5 Effectiveness of treatment of naturally infected lambs with colibacteriosis and salmonellosis with hyperimmune blood serum and antibiotics (n=42)

groups	healing agent	days of observation										place of sending	result	efficiency %
		1	2	3	4	5	6	7	8	9	10			
1 experimental group, 14 head	Hyperimmune blood serum against colibacteriosis and salmonellosis	K	K	T	T	T	T	T	T	T	T	subcutaneous	1 the head did not recover	92,86
2 experience group, 24 head	Amoxicillin	K	K	T	T	T	T	T	T	T	K	between the muscle	3 the head did not recover	87,5
	penstrip-400	K	K	K	K	T	T	T	T	K	K			
	farmostar	K	K	T	T	T	T	T	T	K	K			
	doxylox	K	K	T	T	T	T	T	T	T	K			
	nitox	K	K	K	K	K	K	K	K	K	K			
	enroflox	K	K	T	T	T	T	T	T	K	K			
	gentamicin	K	K	K	K	K	K	K	K	K	K			
	tiful	K	K	T	T	T	T	T	T	K	K			

Note: K- sick, T- recovered

According to Table 5, animals of the I experimental group were treated with "hyperimmune blood serum against colibacteriosis and salmonellosis of young animals". In the process of treating 14 head lambs naturally infected with these diseases, according to the instructions, 1 ml of blood serum was sent to them under the skin twice during the day in relation to 3-5 kg of live weight. According to the results of hyperimmune serum treatment, 92.86% of lambs with mixed colibacteriosis and salmonellosis were found to have recovered.

In serums of blood samples from lambs recovered from mixed diseases of colibacteriosis and salmonellosis, the 8th and 10th days of the experiment were studied to be AR titer n=14 (mean) 1:564. This is evidenced by the formation of primary clostridial immunity in the body. 2 the experiment treated the animals of the group with amoxicillin, farmostar, doxylox, and enroflox, although they were sick in the first days of treatment, based on a special instruction with 8 types of antibiotic agents. Despite the fact that on days 9-10 of the observation period, clinical signs characteristic of colibacteriosis and salmonellosis diseases appeared in Lambs. Those treated with other types of antibiotics penstrip-400, nitox, and gentamicin sulfates did not recover, and recovery was found to be late in observation days. In animals in the experiment, the 3-4th day of observation increased diarrhea, dormancy, increased body temperature (+40.5-+410s), increased heart rate, increased breathing. Sick lambs were weakened, only lying down, the prominent mucous membranes of the muzzle, nose were dry, and blood clots (partially dotted and mostly spotted) were observed on the mucous membranes of the eyes.

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Conclusions:

1. In Lambs vaccinated by guidance with The Associated GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children, salmonella antibodies titer was found to be 1:426 at 9 months; in Lambs vaccinated only once with this vaccine, up to 1:270.
2. In a biochemical analysis of the blood of the first group of lambs vaccinated 2 times with The" Associated GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children", the enzyme alanine aminotransferase (AlAT) reported no damage to liver hepotocytes and the enzyme amylase enzyme -3.28 E/L and -13.47 e/l were left unchanged in Group 2 than lambs vaccinated 1 time with this vaccine.
3. In natural conditions, it has been found that the incidence of colibacteriosis and salmonellosis lesions in the case of mixed infection is y=65.5±0.42% and the mortality rate is x=46.18±0.56%.
4. The" Associated GOA formol vaccine against colibacteriosis and salmonellosis of calf, lamb and pig children "vaccine was found to increase by 1,157±0.04 times compared to the eisinophils norm at 30 days of the experiment due to YAGNI-type antibodies entering the Lambs' Body 2 times and according to the humanitarian response reaction of the immune system; leukocytes by 1,363±0.06 times.
5. In mixed infection cases of colibacteriosis and salmonellosis, the effectiveness of hyperimmune serum treatment of affected Lambs was found to be 92.86 percent, with AR titre N=14 (mean) 1:564 in the blood serum of lambs recovered from disease.
6. E.coli and Salmonella triggers were found to be sensitive to amoxicillin, farmostar, doxylox, and enroflox according to their sensitivity to antibiotics, insensitive to ampicillin and oxacilins, and less sensitive to penstrip-400, nitox, sephur, and gentamicin sulfates.

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